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CLAIMS

1. A method, comprising:

providing a real-time kernel;

5   loading an executable into memory, wherein the memory is allocated for the
executable, and wherein the executable is programmed to execute in a WIN32 execution
environment;

the real-time kernel permitting execution of the executable in an emulated WIN32
execution environment, wherein the emulated WIN32 execution environment utilizes an

10   emulated subset of WIN32 execution environment services; and

the executable operating real-time in the emulated WIN32 execution environment.

2. The method of claim 1, wherein the emulated subset of WIN32 execution
environment services comprises a multi-processor support service.

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3. The method of claim 1, wherein the emulated subset of WIN32 execution
environment services comprises an inter-processor communication service.

4. The method of claim 1, wherein the emulated subset of WIN32 execution

20   environment services comprises an interrupt handler.

5. The method of claim 1, wherein the emulated subset of WIN32 execution
environment services comprises an exception handler.

25   6. The method of claim 1, wherein the emulated subset of WIN32 execution
environment services comprises a memory manager.

7. The method of claim 1, further comprising the real-time kernel executing on
computer hardware, wherein the computer hardware is x86-based architecture computer

30   hardware.

8. The method of claim 1, wherein the real-time kernel is single threaded.

9. A real-time kernel, comprising:-

an interrupt handler;

an exception handler; and

a memory manager, wherein the real-time kernel permits execution of an executable in an emulated WIN32 execution environment, wherein the executable is programmed to execute in a WIN32 execution environment, and wherein the executable operates real-time in the emulated WIN32 execution environment.

10. The real-time kernel of claim 9, wherein the real-time kernel is single threaded.

11. The real-time kernel of claim 9, wherein the wherein the real-time kernel executes on computer hardware, wherein the computer hardware is x86-based computer hardware.

12. An apparatus, comprising:

a processor;

a memory; and

a real-time kernel having a subset of WIN32 execution environment services stored in the memory, wherein the real-time kernel permits execution of an executable in an emulated WIN32 execution environment on the processor, wherein the executable is programmed to execute in a WIN32 execution environment, and wherein the executable operates real-time in the emulated WIN32 execution environment.

13. The apparatus of claim 12, wherein the processor is an x86-based architecture processor.

14. The apparatus of claim 12, wherein the real-time kernel is single threaded.

15. A method, comprising:

providing a real-time kernel;

loading an executable into memory, wherein the memory is allocated for the executable, and wherein the executable is programmed to execute in a WIN32 execution environment;

the real-time kernel creating an emulated WIN32 execution environment which permits execution of the executable in an emulated WIN32 execution environment, wherein the emulated WIN32 execution environment utilizes an emulated subset of WIN32 execution environment services; and

the executable operating real-time in the emulated WIN32 execution environment.

16. The method of claim 15, wherein the emulated subset of WIN32 execution environment services comprises a multi-processor support service.

17. The method of claim 15, wherein the emulated subset of WIN32 execution environment services comprises an inter-processor communication service.

18. The method of claim 15, wherein the emulated subset of WIN32 execution environment services comprises an interrupt handler.

19. The method of claim 15, wherein the emulated subset of WIN32 execution environment services comprises an exception handler.

20. The method of claim 15, wherein the emulated subset of WIN32 execution environment services comprises a memory manager.

21. The method of claim 15, wherein the real-time kernel is single threaded.

22. A computer network, comprising:

a plurality of processors;

a memory; and

a real-time kernel having a subset of WIN32 execution environment services stored in the memory, wherein the real-time kernel permits execution of an executable in an emulated WIN32 execution environment on at least one of the plurality of processors,

wherein the executable is programmed to execute in a WIN32 execution environment, and wherein the executable operates real-time in the emulated WIN32 execution environment.

23. The computer network of claim 22, wherein the plurality of processors are x86-based architecture processors.

24. The apparatus of claim 22, wherein the real-time kernel is single threaded.

25. A computer network, comprising:

a plurality of processors;

a plurality of memories corresponding to each of the plurality of processors; and

a real-time kernel having a subset of WIN32 execution environment services stored in each of the plurality of memories, wherein the real-time kernel permits execution of an executable in an emulated WIN32 execution environment on one of the plurality of processors, wherein the executable is programmed to execute in a WIN32 execution environment, and wherein the executable operates real-time in the emulated WIN32 execution environment.

26. The computer network of claim 25, wherein the plurality of processors are x86-based architecture processors.

27. The apparatus of claim 25, wherein the real-time kernel is single threaded.

28. A method of operating a computer network, comprising:

providing a real-time kernel;

loading an executable into memory, wherein the memory is allocated for the executable, and wherein the executable is programmed to execute in a WIN32 execution environment;

the real-time kernel permitting execution of the executable in an emulated WIN32 execution environment, wherein the emulated WIN32 execution environment utilizes an emulated subset of WIN32 execution environment services; and

the executable operating real-time in the emulated WIN32 execution environment.

29. A computer-readable medium containing computer instructions for instructing a processor to perform a method of operating an apparatus, the instructions comprising:

providing a real-time kernel;

loading an executable into memory, wherein the memory is allocated for the executable, and wherein the executable is programmed to execute in a WIN32 execution environment;

the real-time kernel permitting execution of the executable in an emulated WIN32 execution environment, wherein the emulated WIN32 execution environment utilizes an emulated subset of WIN32 execution environment services; and

the executable operating real-time in the emulated WIN32 execution environment.

30. The computer-readable medium of claim 29, wherein the computer hardware is x86-based architecture computer hardware.

31. The computer-readable medium of claim 29, wherein the real-time kernel is single threaded.

32. A computer-readable medium containing computer instructions for instructing a processor to perform a method of operating a computer network, the instructions comprising:

providing a real-time kernel;

the real-time kernel initializing the computer network;

loading an executable into memory, wherein the memory is allocated for the executable, and wherein the executable is programmed to execute in a WIN32 execution environment;

the real-time kernel permitting execution of the executable in an emulated WIN32 execution environment, wherein the emulated WIN32 execution environment utilizes an emulated subset of WIN32 execution environment services; and

the executable operating real-time in the emulated WIN32 execution environment.